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Research Article

Stable cohabitational unions increase quality of life: Retrospective analysis of partnership histories also reveals gender differences

Okka Zimmermann

Nicole Hameister

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Stable cohabitational unions increase quality of life: Retrospective analysis of partnership histories also reveals gender differences

Okka Zimmermann¹

Nicole Hameister²

Abstract

BACKGROUND

Prior research focused on the impact of being in a partnership on quality of life from a cross-sectional perspective; the impact of partnership histories has not yet been investigated.

OBJECTIVE

Based on the life-course paradigm and the theory of cumulative (dis)advantages, we address this research gap.

METHODS

Using pairfam data, we analyse the influence of partnership histories between ages 14 and 41 on depressiveness, overall life satisfaction, and partnership expectations. We demonstrate the additional value of using life-course clusters over simple sequence characteristics by showing that more detailed and accurate conclusions can be drawn.

RESULTS

Results highlight that both men and women benefited from being in a stable cohabitational union.³ Gender differences were found among those who were negatively affected by not establishing a stable cohabitational union. Among men, long-term singles were significantly more depressed, less satisfied, and had more negative partnership expectations than their cohort peers. Among women, those with a history of unstable relationships were less satisfied and had more negative partnership expectations.

¹ Technische Universität Braunschweig, Germany. Email: o.zimmermann@tu-braunschweig.de.

² Deutsches Zentrum für Altersfragen, Berlin, Germany. Email: nicole.hameister@dza.de.

³ Cohabitational union is a partnership in a shared household in or out of wedlock.

CONCLUSIONS

In line with the theory of cumulative (dis)advantages, the benefits of stable cohabitations were shown to accumulate over time for both genders. The differences found between men and women are convincing in light of research on unequal gender roles within partnerships.

CONTRIBUTION

We add to prior research by demonstrating the value of conducting a gender-sensitive longitudinal analysis of the impacts of partnership trajectories on quality of life.

1. Introduction

As the existing research has not addressed the influence of partnership trajectories on quality of life, there is no clear evidence about the influences of partnership histories on well-being. There is a large body of cross-sectional research that has focused on the correlation between partnership status, well-being, and other characteristics of an individual's situation. For example, studies on the socioeconomic correlates of never partnering have shown that, in general, people who have a low level of education and fewer labour market and economic resources are more likely than their counterparts with higher socioeconomic status to remain single – with the large exception of high-resource women, who are also less likely than other women to be in a relationship (Wiik and Dommermuth 2014; Dykstra and Poortman 2010; Wiik 2011; Kalmijn 2011). Studies that have looked at the consequences of permanent singlehood have found that it has detrimental effects. There is, for example, evidence that compared to people in partnerships, single people have lower levels of emotional and economic support, well-being, and health, especially in old age, and are more likely to experience psychological and material disadvantages (Kalmijn 2013; Pinquart and Sörensen 2011; Kalmijn 2011; Wiik 2011).

The life-course perspective (Elder 1994) suggests that any given situation is a result of prior life decisions, experiences, and events; therefore, the life-course context has to be taken into account when examining the outcomes of single people. In line with the cumulative advantages and disadvantages concept (CAD, DiPrete and Eirich 2006, see below for explanation), we suggest that particular relationship careers lead to higher levels of well-being because the benefits of living with a partner and the disadvantages of being single accumulate over time. Our study takes into account the whole partnership career from age 14 up to age 41, and clusters these 27 years to identify typical partnership pathways through youth and young adulthood. We then consider these partnership biography clusters as potential explanatory factors for the

three outcome dimensions of quality of life, psychological health (depressiveness), and partnership expectations. We add to the existing state of research by using sequence analysis methodology to offer a longitudinal perspective on the association between being in a partnership and well-being. We also use simple sequence characteristics to execute sensitivity tests, thereby demonstrating the additional value of applying the longitudinal perspective of sequence analysis to our research topic.

2. Background

2.1 Results from cross-sectional research

A large number of studies have looked at the association between partnership status and well-being from a cross-sectional perspective. Uhlenberg and Mueller (2003) provided an overview of the results on the relationship between marriage and well-being and concluded that being married is correlated not only with a lower mortality hazard (especially for men), but with a much lower likelihood of engaging in risk-taking behaviour. It has been shown that most of the practical, social, and emotional support that adults receive, especially at older ages, comes from their partner, who is the main source of care giving (Pinquart and Sörensen 2011). Moreover, there is evidence that people who are cohabiting within or outside of marriage report feeling less lonely and having higher levels of well-being than single people (Dykstra and De Jong-Gierveld 2004; Soons, Liefbroer, and Kalmijn 2009). Mental and physical health has been shown to be of higher quality among married people than among people who never married or are divorced and did not remarry (Berkman et al. 2000; Lillard and Waite 1995). While it is likely that selection into marriage can explain a portion of these differences, there is also clear evidence of a protective effect (Berkman et al. 2000). Additionally, adult children have been found to provide less support to their parents when the parents are divorced or separated (Kalmijn 2007). Research has also shown that “the effect of marriage depends on its longevity” (Lillard and Waite 1995: 1154), which is a strong hint that using a longitudinal perspective could enable us to gain a much better understanding of the effect on well-being of being in a partnership.

Empirical findings on the question of whether being married contributes more to subjective well-being than being in another type of living arrangement within a partnership (mainly unmarried cohabitation) are extensive, yet ambiguous: whereas cross-sectional research has found that married people are happier and more satisfied than cohabiters (Lewin 2016: 4), longitudinal findings have shown less consistently that one living arrangement is more conducive to happiness or satisfaction than another. There is, for example, evidence that entering marriage or cohabitation tends to increase

well-being for at least a couple of years, but that marital quality tends to decline thereafter (Lewin 2016; van Laningham, Johnson, and Amato 2001). Theoretical considerations, such as hedonic adaptation and set-point theory, support these findings.

The research results on the effects of having a partner but living in separate households – or ‘living apart together’ (LAT) relationships, an expression shaped by Staver (1980) – have been ambiguous. Some studies have found that LAT partners are more satisfied with their relationship than partners who live together, possibly because LAT couples tend to meet more frequently to engage in common activities, and actively reserve time in their everyday lives to spend together (Noyon and Kock 2006). However, another analysis found that LAT partners receive less practical and emotional support from their partners and are therefore less likely to be happy than married or cohabiting partners (Lewin 2016). A larger body of research that focused on LAT relationships among older people found that LAT partners report lower levels of strain in their relationships, but also lower levels of happiness than their married and cohabiting counterparts. These findings may appear contradictory, but research has shown that strain and support are interdependent (see Connidis, Borell, and Ghzanfaraeon Karlsson 2017 for an overview on the research results on LAT relationships in later life).

In summary, long-term singlehood is usually associated with lower subjective well-being, whereas being in a stable relationship such as cohabitation or marriage is, on average, beneficial for an individual’s quality of life. The results for being in a LAT relationship suggest a more ambivalent association: compared to partners who live together, LAT partners report having lower stress levels concurrent with lower levels of happiness. Most previous research on the effects of partnership status on well-being was conducted at the cross-sectional level and linked current partner status with different outcomes or personal characteristics. There are almost no existing studies that considered relationship careers as an explanatory factor for quality of life. Nevertheless, the previous literature on the association between different partnership states and socioeconomic and subjective well-being has provided interesting insights, as well as hints about the kind of results we can expect to find when analysing the effects of partnership careers on well-being.

2.2 Theoretical perspectives: The accumulation of (dis)advantages over the life-course

There are two main theoretical perspectives that are helpful for this research. The life-course perspective (Elder 1994) provides the general theoretical framework, while the

CAD concept (DiPrete and Eirich 2006) can help to explain the longitudinal effects of partnership trajectories.

Life-course theory assumes that individuals move through a sequence of roles in life from birth to death and refers to this process as the life-course (Elder 1994; Elder, Kirkpatrick Johnson, and Crosnoe 2003). The institutional formation of roles, their enactment, and their interplay over time have been addressed by life-course scholars (Mayer 2009), most of whom see the life-course as a multilevel phenomenon, “ranging from structured pathways through social institutions and organizations to the social trajectories of individuals and their developmental pathways” (Elder 1994: 5). Following Kohli’s (1986, 2007) very prominent concept of destandardisation, it has been shown that the sequencing of roles over the life-course reached a highly standardised pattern in the 1950s and 1960s but became more fragmented, more fluid, and less calculable in the decades that followed (Elder, Kirkpatrick Johnson, and Crosnoe 2003).

Elder put forward five essential life-course principles: life-span development, agency, time and place, timing, and linked lives (Elder 1994). The life-course principle that is the most relevant for the study of relationship careers is that of linked lives, as “[...] human lives cannot be adequately represented when removed from relationships with significant others” (Elder, Kirkpatrick Johnson, and Crosnoe 2003: 13). Thus, life-course analysis needs to take relationships, and especially partnerships (or the absence of partnerships), into consideration. Starting or ending a relationship can have significant (positive or negative) effects on an individual. For example, when people enter or leave a relationship, their networks may change, and their lives may become more or less conventional or antisocial. Receiving financial, instrumental, and emotional support from a partner (or, alternatively, being independent) can contribute substantially to a person’s well-being. As individuals move through a sequence of states (being single, LAT, cohabitation), they actively construct (most of) these trajectories and are affected by expectations and beliefs about the appropriate order and duration of these states. By entering or exiting a relationship, they link or unlink their lives. Thus, to understand the effects of linked lives, it is crucial that we analyse partnership histories (although here we analyse the life-course of one of the partners only).

Another principle that is highly relevant for studying relationship careers is that of timing. This term refers to “the incidence, duration, and sequence of roles, and to relevant expectations and beliefs based on age” (Elder 1994: 6). The same events or transitions may affect individuals in different ways, depending on when in the life-course they occur (Elder, Kirkpatrick Johnson, and Crosnoe 2003: 12). In our study, we assume that it certainly makes a difference whether people start their first cohabitation episode in their early adult years or later in life. The duration of episodes is also relevant: Episodes of being single, in a LAT relationship, or cohabiting that last for

decades are assumed to have a very different impact compared to shorter episodes that alternate frequently between states. Elder has observed that age norms are associated with specific life events (Elder 1994: 6), and that violating these norms “may be ill-timed and particularly costly; teenage childbearing is an example” (Elder 1994: 6). Even in societies with high levels of pluralisation and destandardisation of living arrangements and life-courses, social norms concerning not only the timing, but also the sequencing and quantum of demographic events, remain relevant. In particular, norms regarding the appropriate ages for entry into a union and childbearing have persisted (Liefbroer and Billari 2010).

At the interface of life-course and social inequality, the CAD concept has been frequently invoked in the social science literature (DiPrete and Eirich 2006; Dannefer 2003). In essence, CAD describes patterns of social processes in which certain individuals or groups have initial advantages over others, and these advantages accumulate over time, resulting in growing inequality. “More formally, cumulative advantage/disadvantage can be defined as the systemic tendency for interindividual divergence in a given characteristic (e.g., money, health, or status) with the passage of time” (Dannefer 2003: 327). The CAD concept originates from Merton’s (1968) classic essay on reward and communication systems. The concept has been applied to a wide range of topics, including the educational process, racial inequality, family and neighbourhood backgrounds, professional careers, and health (DiPrete and Eirich 2006). Although more systematic empirical investigations of CAD mechanisms are needed, most of the existing data suggests that advantages and disadvantages accumulate over the life-course and generate increasing levels of inequality between social groups in many social domains (DiPrete and Eirich 2006: 292).

Based on the theory of CAD and in line with prior research results (above), we assume that relationship careers affect well-being in two main ways, with advantages accumulating over time.

First, it is assumed that people in a partnership receive more social, emotional, and instrumental support than people who are single. This is partly because people who are living with a partner, with or without being married, typically pool their financial and material resources, and share their housework and care responsibilities. The social and emotional support a partner provides may be especially important to a person’s quality of life, as the level of support given by a partner usually exceeds that offered by friends and relatives. While single people might have a social network that fulfils their emotional needs, most people report that their partner is their most important source of support (Kalmijn 2013; Dykstra and De Jong-Gierveld 2004; Soons, Liefbroer, and Kalmijn 2009). Additionally, having a partner provides a link to an extended family as well as an extended circle of friends and acquaintances. In line with the results of prior research (see above), we expect to find that the level of support increases with the level

of institutionalisation of a partnership, i.e., that people who are in LAT relationships have a higher quality of life than singles, and that partners who are cohabiting or married are happier than partners in LAT arrangements.

Second, norms regarding the incidence, timing, and duration of cohabitation are still highly prevalent (Liefbroer and Billari 2010) and shape people's evaluations of their own relationship careers. In most societies, the norm for relationship formation is entering a cohabiting union as a relatively young adult. Although the influence of norms on life-course decisions is often called into question, and little research has been done on the topic, we can assume that most people feel more satisfied when their life-course conforms to the standards of their society. Based on the assumption that norms are reflected in the behavioural patterns of a population, we can conclude that having a life-course that is similar to the life-courses of cohort peers (i.e., is more standardised) is evaluated positively and leads to a greater level of satisfaction.

3. Research strategy and hypotheses

In the tradition of life-course research (specifically, the CAD theory described above), we argue that certain partnership careers influence the well-being of individuals either positively or negatively, not just around the time they enter a partnership but in their subsequent lives. This general assertion is broadly supported in the literature (Uhlenberg and Mueller 2003: 123) and, indeed, different categories of outcomes have been researched. However, most studies on the explanatory effects of the life-course have focused on survival and physical health, emotional and mental health, socioeconomic status, or social relationships (Umberson and Karas Montez 2010).

In our analyses, we do not differentiate between married or unmarried cohabitation, as the overall shift from marriage to unmarried cohabitation is predominantly a formal one (Kohli 2007), and some strands of research have shown that the association between being in a partnership and subjective well-being is similarly strong, regardless of whether the partners are married or cohabiting (see above). Unmarried partners living in a joint household can offer each other the same levels of commitment and support as spouses do. Moreover, in our supplementary sequence analyses (not displayed), we found no noteworthy deviation from the final cluster solution when we included married and unmarried cohabitation episodes separately. Apart from cohabiting, we observe being single or being in a LAT relationship as valid states in respondents' retrospective partnership biographies.

The life-course outcomes that have received the most attention in the social sciences are related to individual well-being (Uhlenberg and Mueller 2003). In this tradition, we analyse the effects of partnership careers on three different dimensions of

well-being: quality of life, psychological health, and partnership expectations. Quality of life, operationalised as overall life satisfaction, is a general measure of how positively individuals evaluate their own lives relative to their expectations (Nieboer et al. 2005; Ryan and Deci 2000). Information on quality of life is available and is thus comparable for respondents with or without a partner. Level of depression symptoms is a widely used indicator of psychological problems and can be used to approximate respondents' overall mental health status. This indicator is also measured within couples (Johnson et al. 2017). Partnership expectations are directly correlated to individuals' previous and subsequent partnership careers. Although we cannot disentangle causality, it seems reasonable to assume that individuals' expectations of a partnership are influenced by their previous experiences, and that those expectations in turn shape the development of their partnerships over time.

In line with the CAD theory, as well as with the cross-sectional research on the positive effects on well-being of being in a partnership (see above), our main research hypothesis is as follows:

Hypothesis 1: Partnership careers with longer and more stable episodes of cohabitation are associated with more positive outcomes (i.e., a higher quality of life, lower levels of depression, and less negative expectations of partnerships) than biographies that are characterised by long episodes of being single or being in unstable relationship sequences with high levels of turbulence between partner states.

In line with the theoretical considerations described above on the importance of norms for individuals' (positive or negative) evaluation of their lives, we propose the following hypothesis:

Hypothesis 2: Individuals whose partnership biographies are more similar to those of their cohort peers have higher levels of well-being on all three dimensions.

We also assume that how individuals' partnership biographies influence their quality of life, psychological health, and partnership expectations vary, depending on whether the person is a man or a woman. In general, compared to women, men experience more benefits from cohabitation and suffer more negative consequences from being single for longer periods of time. Several strands of research have confirmed the existence of gender disparities at various levels. Some of the more important gender differences are briefly described here:

- Social and emotional support: As the vast body of research on the association between partnership status and mortality and physical health has demonstrated, men benefit more than women from being in a stable cohabiting union. Compared to men who are single, men who are married tend to have a healthier lifestyle and a higher level of social integration and are less likely to engage in risk-taking behaviour (see Uhlenberg and Mueller 2003: 138).
- Financial support: Marriage improves the life chances of women mainly by improving their economic position (Lillard and Waite 1995). Remarriage can be a strategy for making up for the loss of income after a separation (Dewilde and Uunk 2008). This strategy is especially crucial for women who had a low income and/or low qualifications before divorcing. (Interaction of class/income and gender is expected.)
- Sharing of household tasks: While there is general agreement that household labour should be divided equally, women still invest more of their time in housework and caring tasks than their partners. Thus, single men tend to have a greater household workload than cohabiting men, while single women tend to invest less time in household tasks than their cohabiting counterparts (Fahlén 2016; Aasve, Fuochi, and Mencarini 2014).
- Substitution of support: Single women seem to be more successful in substituting the missing support of a partner. For example, there is evidence that, compared to men, women foster larger and closer networks of friends and family and appreciate their independence more (Baumbusch 2004).

These well-established gender differences lead us to expect the following with respect to the three levels of well-being:

Hypothesis 3a: Men are more negatively affected than women by permanent singlehood and having unstable partnership trajectories.

Hypothesis 3b: Women benefit less than men from having a stable cohabitational biography.

4. Data and methodology

Our analyses are based on prospective and retrospective data from waves 6 and 7 of the German Family Panel (pairfam), release 7.0 (Brüderl et al. 2016). A detailed description of the study can be found in Huinink et al. (2011). To cover partnership histories over a long age range (from age 14 to age 41), we use only data from the

cohort born in 1971–1973 and exclude respondents who were under age 41 at the time of the last interview, whose data is incomplete or inconsistent, or who are migrants of the first generation. The remaining sample size is 1924. Of this sample, 1069, or 56%, are women, while 855, or 44%, are men (see Table 1 for further details on the sample composition). The sample size is further reduced in the multivariate analyses, depending on the availability of information on dependent variables (see Table 3 in the Results section). We do not apply any weighting to avoid the over-representation of certain kinds of individuals or unintended influences on the data.

Table 1: Sample description

	Total		Women		Men	
Total	1924		1069		855	
Region						
East Germany	887	46%	368	34%	519	61%
West Germany	1037	54%	701	66%	336	39%
Levels of formal education						
No qualifications	21	1%	11	1%	10	1%
Low (Hauptschule)	258	13%	125	12%	133	17%
Medium (Realschule)	841	44%	496	46%	345	40%
High (Abitur)	797	41%	434	41%	363	42%
Other	7	0%	3	0%	4	0%
Migration status (First generation excluded)						
No migration background	1662	86%	905	85%	757	89%
Second generation	198	10%	129	12%	69	8%
Information missing	64	3%	35	3%	29	3%
Children in household						
No children in household	334	17%	145	14%	189	22%
At least child in household	1590	83%	924	86%	666	78%
BIK classification (simplified)						
500,000+	564	29%	338	32%	226	26%
100,000 to <500,000	543	28%	303	28%	240	28%
50,000 to <100,000	253	13%	133	12%	120	14%
20,000 to <50,000	256	13%	136	13%	120	14%
< 20,000	308	16%	159	15%	149	17%

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Note: Total respondent numbers and column percentages are displayed. Simplified classification code based on municipality codes developed by BIK Aschpurwis + Behrens GmbH.

We differentiate between three partnership states: single (without a relationship), LAT, and cohabitation. We do not differentiate between nonmarital and marital

cohabitation because we consider this difference to be of less importance for our research question, as we assume that the (emotional) support the partners receive does not depend on this formal partnership characteristic. Additionally, the findings of our preliminary comparative analyses indicate that differentiating between nonmarital and marital cohabitation would have little impact on our final results. We have defined one dominant state per quarter of the year. We decided against using the information on every month to reduce the complexity of the data. In the case of several partnership states within a quarter, the state of the month in the middle of the quarter is used.

While the issue is seldom discussed in any detail in the literature, the choice of the dissimilarity measure used to identify clusters of respondents is crucial in sequence analysis research. Studer and Ritschard (2016) pointed out that each sequence dissimilarity measure focuses on specific types of dissimilarity. In our research, sensitivity to duration is crucial because of the CAD theory hypothesises that the benefits of the time spent in partnerships accumulate. However, these benefits cannot simply be summed up, as the length of the partnership spells is important (i.e., having longer, more stable relationships is assumed to be more beneficial than having a few short relationships). Therefore, it is advisable to use duration (meaning the length of an episode in one state) rather than exposure (meaning the pure sum of the time spent in a state across the life-course) as the key dissimilarity concept to be measured by the sequence analysis approach chosen. The life-course perspectives described also strongly suggest that the sequencing and timing of transitions, episodes, and states should be taken into account.

We have chosen the longest common subsequence (LCS, recently also used by, for example, Böhnke, Zeh, and Link 2015; Jalovaara and Fasang 2017; Hoppmann and Zimmermann 2018) as our dissimilarity measure because it combines a high sensitivity to duration with sensitivity to other aspects of life-course dissimilarity (Studer and Ritschard 2016: 508). This is partially due to the fact that the LCS usually includes large portions of the longest episodes of life-courses (Elzinga and Studer 2015). The LCS can be interpreted as a variant of optimal matching (OM, Abbott and Forrest 1986; Abbott and Tsay 2000) in which the indel costs are relatively low (half or less of the fixed substitution costs), and substitutions are, therefore, never used (Lesnard 2006). The core principle of the OM approach is that sequence dissimilarity is in pairwise comparison defined by the number of operations (substitutions, insertions, and deletions) used to transform one sequence into another. According to Studer and Ritschard (2016: 593), OM with low indel (i.e., also the LCS) costs is less (but still somewhat) sensitive to timing and less insensitive to sequencing than other versions of OM.

We discarded preliminary analyses of clusters created using variations of OM (with differing cost schemes), including the Hamming distance (Hamming 1950, 1980)

and episode-based measures (as suggested by Elzinga and Liefbroer 2007; Elzinga and Studer 2015), which resulted in lower pseudo-F values, less distinctive clusters, and (in the case of the episode-based measures) a very unequal distribution of respondents across clusters. Separate analyses for gender groups also generated similar clusters, and therefore did not add further value. We have thus chosen to analyse life-courses across gender groups. We use Halpin's (2017) SADI-Tools to calculate sequence dissimilarity and the SQ-ados of Brzinsky-Fay, Kohler, and Luniak (2006) to generate the sequence index plots.

Table 2: Pseudo-F of different cluster solutions

Clusters	2	3	4	5	6	7	8	9	10	11	12	13	14
Pseudo-F	1.49	1.84	1.36	1.61	1.31	1.2	1.2	1.31	1.22	1.25	1.16	1.13	1.1

Source: Pairfam, respondents from waves 6 and 7, own calculations.

As independent variables, we use average dissimilarities as well as two cluster solutions (with three and nine clusters), which we selected based on local maxima of pseudo-F (Table 2) and the distinctiveness of the cluster descriptions. Although the pseudo-F value is higher for five than for nine clusters, the first was not used for further analyses because it did not add much value to the analysis of the three-cluster solution. The solution with nine clusters (local maximum) adds more information because it highlights several smaller differences between life-courses. The average degree of dissimilarity between the life-courses indicates the extent to which the life-course has been destandardised (Kohli 1986; Aisenbrey and Fasang 2010), i.e., how much on average the partnership history of each individual differs from those of the other cohort members. In contrast to most applications of dissimilarity as a measure of destandardisation, it is used here as an individual attribute. For each respondent, the average of the degree of dissimilarity of the respondent's trajectory to that of any of their cohort peers is calculated as an indicator of the level of destandardisation of the respondent's trajectory. As described above, this measure can also be interpreted as showing the extent to which a respondent's behaviour diverges from the norms of partnership formation.

To test our hypotheses, we use three dependent variables, two of which are indices constructed out of the items displayed in Table A-1 in the Appendix. The first variable is "overall life satisfaction" (no index, but deducted from one question, Thönnissen et al. 2017: 170), which we normalised to values between zero (very dissatisfied) and one (very satisfied). We also used a 'depression scale' (Cronbach's alpha 0.91), which is constructed out of ten relevant variables (Johnson et al. 2017; Thönnissen et al. 2017: 161f.) covering, for example, (un)happiness, sadness, feelings of (in)security, and (not)

enjoying life. The values in the scale range from zero (almost never depressed) to one (almost always depressed). The third dependent variable summarises ‘negative partnership expectations’ constructed out of five negative ‘value of partnership’ variables (VOP-) (Nieboer et al. 2005; Ryan and Deci 2000; Thönnissen et al. 2017: 25ff.) with Cronbach’s alpha of 0.82. These variables are based on responses to questions posed to all respondents (with or without a relationship) about issues such as fear of stress, boredom, constraints, and relationship problems. As the addition of the ‘positive partnership expectations’ (VOP+) variables led to a decrease in Cronbach’s alpha, and an additional index made up of VOP+ variables had only a low Cronbach’s alpha of 0.57, these variables were not considered. The dependent variables were measured mainly between the ages of 41 and 43, as only a few of the respondents had reached the age of 44 at the time of measurement.

We controlled for important sociostructural variables (east/west Germany, level of education, individual net income, hours of work per week, children in the household, household size, migration status, and size of the population of the city/town of residence according to a simplified BIK classification). We calculated the models separately for gender groups because of the strong interactions of gender and partnership histories in relation to the influences on the quality of life variables found in the descriptive analyses (Table A-4). To capture as many significant differences as possible, we also used all of the clusters as reference categories in separate models. One to two models with different reference categories were always sufficient to display all significant differences between the respondent groups for each combination of gender group, cluster, or dissimilarity (independent variable) and dependent variable.

We also calculated models by using some simple summarising features of the partnership histories (timing of the first partnership, number of and time spent in LAT relationships and cohabitations, at least one or two cohabitational episodes) as independent variables. The purpose of these analyses was to investigate whether the models that used sequence analysis generated results that are of greater value than the results of the analyses of these very simple models (sensitivity tests). Therefore, the hypotheses were first evaluated by using the models that include the summarizing features, and then using the results from the models that include clusters from sequence analysis. The distribution of the summarizing features is shown in Table A-8 (Appendix).

A limitation of our study is that we cannot control for selection effects because we have no information on the partner’s level of depressiveness, negative partnership expectations, and overall life satisfaction at the beginning of our partnership histories. Therefore, we cannot disentangle selection effects from causal effects. There is some likelihood that having depressive symptoms and negative partnership expectations also leads to having less stable partnership trajectories or being single. However, in light of

prior research, it is implausible that selection effects alone cause the interdependencies observed between our partnership histories and our dependent variables. It is more plausible to assume that both selection and causal effects play a role. Only through research using prospective data can these effects be disentangled. Until now, however, it was not possible to conduct such research for life-course phases that are as long as the ones we are analysing.

5. Results

The two cluster solutions in Figures 1a and 1b (an overview of the distribution of the respondents is in Table A-2 in the Appendix) reveal the high prevalence of life-courses dominated by cohabitation, especially among women (two-thirds of life-courses in the three-cluster solution). Thus, the results point to a normative preference for being in a stable, long-term cohabitation. In the more differentiated view of the nine-cluster solution, these respondents are differentiated according to the timing and the speed of the transition, as well as the stability of the partnership (clusters iii, v.–ix.). However, the results also reveal that 9% of respondents (14% of men) remained single throughout the life-course span analysed (98% of the time spent single, cluster II/iv). One-third of respondents had partnership histories with a mix of different states (cluster I). Here, unstable partnership histories (with numerous breakups or changes between LAT relationships and cohabitations) as well as partnership histories with a relatively late transition from being single to being in a LAT relationship, or from being in a LAT relationship to cohabiting, are found. The independent variables strongly vary by clusters; these variations are mostly significant in the bivariate analyses (Tables A-3a and A-3-b in the Appendix), but some are also significant in the multivariate analysis (Table 4). As certain characteristics (for example, education, migration status, region (east or west Germany), and BIK classification) tend to be stable within each life-course, it is plausible to assume that selection effects also appear.

Figure 1: Sequence index plots of selected cluster solutions (age 14 to 41)

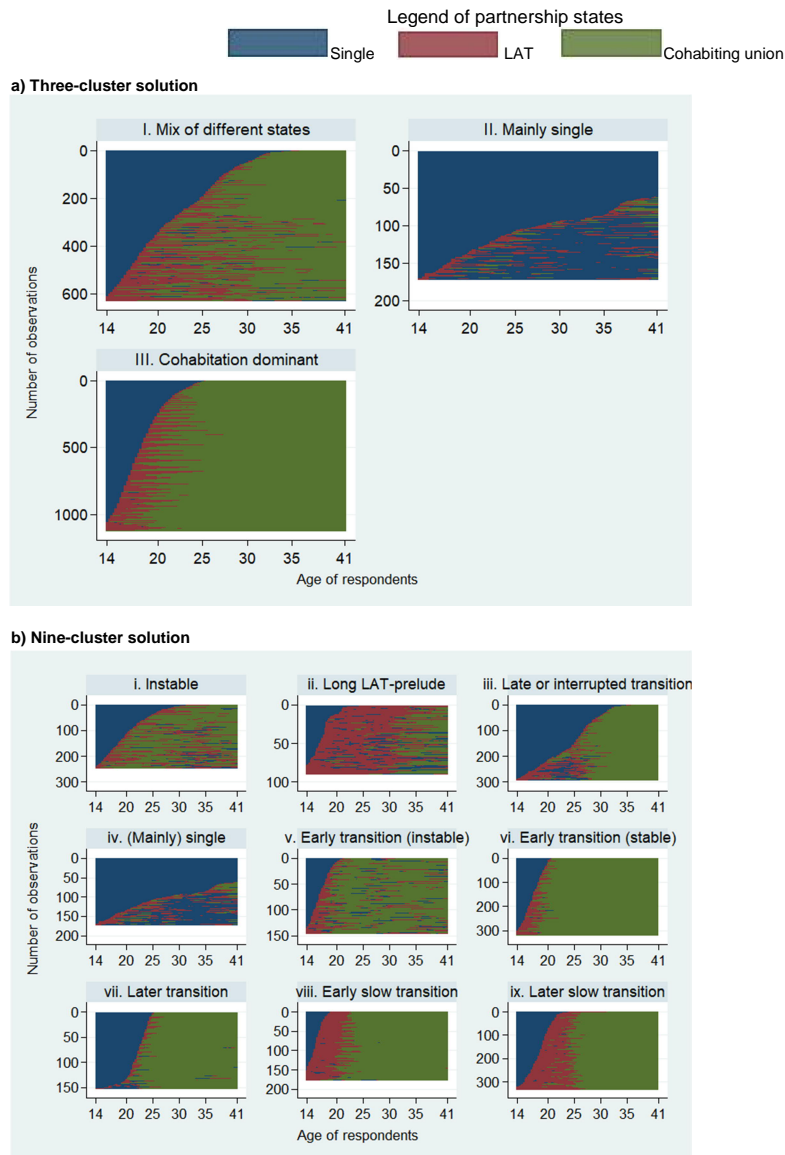


Table A-7 (in the Appendix) describes the distribution of the outcome variables as well as the average dissimilarities. It shows that there are only minor differences between men and women in terms of the average values. In Table 3, the influences of the simple summarising features onto the dependent variables are shown as a summary of 24 models, for which the controlling variables are not shown. Table 4 displays the influences of the cluster and the average dissimilarity variables as an overview of 21 multivariate regression models; in the Appendix, the full models (including the sociostructural variables that are controlled for and the standard errors for regression coefficients) of the models presented in Table 4 are displayed. For models A and B in Table 4, the reference category is adapted in each model to maximise the differences between the reference category and the remaining categories, thereby enabling us to identify as many statistically significant differences as possible. To capture all of the statistically significant differences, it is necessary in some cases to show two models with different reference categories. The models shown include all significant differences between the categories. In the following, we first evaluate the hypotheses based on the results of the models that include simple sequence features (Table 3) and then check the additional value of the models that include the results of the sequence analysis (Table 4). Thus, we can clearly demonstrate the need to apply the complex sequence analysis methodology when seeking to understand the connection between partnership histories and well-being.

Table 3: Linear regression for simple life-course characteristics (sensitivity tests to evaluate the additional value of sequence analysis)

Independent variables	Dependent variables		Negative partnership expectations (0 to 1 = strongly negative)		Overall life satisfaction (0 to 1 = highly satisfied)	
	Depressiveness scale (0 to 1 = depressed)					
	(1) Women Obs: 809	(2) Men Obs: 714	(3) Women Obs: 745	(4) Men Obs: 668	(5) Women Obs: 816	(6) Men Obs: 721
Models A: Time spent in partnership states						
Time in LAT	0.0077	-0.0492	-0.0497	0.0128	-0.0092	0.0930*
Time in cohabitation	0.0289	-0.0281	-0.1255**	-0.1216**	0.0327	0.0372
Models B:						
Start of first partnership	-0.0002	-0.0002	-0.0002	-0.0003	0.00005	-0.0001
Models C:						
Number of LAT relationships	0.0004	-0.0053	0.0149**	0.0059	-0.0035	0.0091*
Models D:						
Number of relationships in cohabitation	-0.0165*	-0.0113	-0.0131	-0.0160	0.0166*	0.0271**
Models E:						
At least one cohabitational episode	-0.0520*	-0.0156	-0.1080***	-0.1150**	0.0932***	0.0500
Models F:						
At least two cohabitational episodes	-0.0102	-0.0168	-0.0089	-0.0008	0.0249	0.0187

Note: *** \triangleq $p \leq 0.001$, ** \triangleq $p \leq 0.01$, * \triangleq $p \leq 0.05$; all significant influences are highlighted in grey; all others are $p > 0.05$ and are thus statistically not significant; Controlled for east/west Germany, level of education, individual net income, hours of work per week, children in the household, household size, migration status, and size of population unit living in (according to simplified BIK classification).

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Hypothesis 1 assumed that the partnership histories with long periods spent single or with a high degree of turbulence between partnership states have a negative impact on well-being. In line with Hypotheses 3a and 3b, we found that the results are very different for men and women; therefore, we decided to evaluate Hypotheses 1, 3a, and 3b jointly. Hypothesis 3a argued that having unstable partnership trajectories and long periods of singlehood have more negative effects on men than on women, and that men therefore benefit more than women from being in a stable cohabitational union (Hypothesis 3b). As the results for the three dependent variables differ, we first evaluate the results for each variable separately, and then briefly summarise the findings.

Table 4: Overview of the influences of partnership histories from multivariate regression models

Dependent variables	Depressiveness scale (0 to 1 = depressed)		Negative partnership expectations (0 to 1 = strongly negative)		Overall life satisfaction (0 to 1 = highly satisfied)	
Independent variables	(1) Women Obs: 809	(2) Men Obs: 714	(3) Women Obs: 745	(4) Men Obs: 668	(5) Women Obs: 816	(6) Men Obs: 721
Models G: Three clusters						
I: Mix of different states	0.0015	-0.0022	0.0263	0.0291 *	-0.0158	0.0641 **
II: Mainly single	-0.0458	0.0549 *	0.0491	0.0683 **	-0.0049	[reference]
III: Cohabitation dominant	[reference]	[reference]	[reference]	[reference]	[reference]	0.0513 *
Models H: Nine clusters						
		(a) (b)	(a) (b)	(a) (b)		
i: Unstable	0.0329	-0.0747 ** -0.0751 *	[reference]	0.1176 *** -0.0274	0.0877 **	-0.0538 * 0.0833 **
ii: Long LAT-Prelude	0.0449	-0.0387 -0.0391	-0.0965 *	0.0212 -0.0244	0.0907 *	-0.0311 0.0654 *
iii: Late or interrupted transition	0.0703 *	-0.0516 * -0.0521	-0.0946 **	0.0231 -0.0557 *	0.0594 *	-0.0402 0.0459
iv: (Mainly) single	[reference]	[reference]	-0.0005 -0.0246	0.0931 * [reference]	0.1151 ***	-0.0356 [reference]
v: Early transition (unstable)	0.0395	0.0005 [reference]	-0.0554	0.0622 *	-0.0563	0.0588 -0.0407 0.0444
vi: Early transition (stable)	0.0652	-0.0439 -0.0444	-0.0823 **	0.0353 -0.1151 ***	[reference]	-0.0356 0.0649 *
vii: Later transition	0.0615	-0.0796 ** -0.0800 *	-0.0999 **	0.0176 -0.0746 *	0.0405	-0.0289 0.0365
viii: Early slow transition	0.0317	-0.0741 * -0.0746 *	-0.1176 ***	[reference] -0.0800 *	0.0351	[reference] 0.0480
ix: Later slow transition	0.0483	-0.0548 * -0.0552	-0.0859 **	0.0317 -0.0567 *	0.0584 *	-0.0300 0.0422
Models I:						
Average dissimilarity	-0.1197	0.1438	0.262 **	0.2396 **	-0.0903	-0.087

Note: *** \triangleq $p \leq 0.001$, ** \triangleq $p \leq 0.01$, * \triangleq $p \leq 0.05$; all significant influences are highlighted in grey; all others are $p > 0.05$, and are thus statistically not significant; Controlled for east/west Germany, level of education, individual net income, hours of work per week, children in the household, household size, migration status, and size of population unit living in (according to simplified BIK classification). (See Appendix for full models including all variables.)

Source: Pairfam, respondents from waves 6 and 7, own calculations.

For the level of depressiveness, we found, contrary to our expectations, hardly any significant influences of the simple sequence characteristics (Table 3). A significant influence of cohabitational episodes was found only among women, mainly due to the

positive influence (leading to fewer depressive symptoms) of having at least one cohabitational episode. Thus, we can very clearly demonstrate for this dependent variable that the use of sequence analysis considerably enriches our understanding of the influences of partnership histories on wellbeing. According to models G.2 and H.2a (Table 4), men with a history of being single were significantly more depressed than those with stable or unstable partnership histories (including those who were mainly cohabiting), especially if they did not transition to cohabitation until late in the life-course. Men were also found to be significantly more depressed if they had entered an unstable cohabitation early in the life-course (model H.2b in Table 4). They were, by contrast, likely to be better off if they had experienced an unstable partnership trajectory with a mix of different states, including LAT periods (models H.2a and H.2b in Table 4). It therefore appears that men were least likely to show symptoms of depressiveness if they experienced a greater degree of freedom at the beginning of their partnership history but had benefited from entering a stable cohabitation later in life. Hypothesis 1 can thus be only partially supported for men and depressiveness, as only permanent singlehood and an unstable trajectory of mainly cohabitation episodes that started early in life were found to have a negative impact, while having an unstable partnership trajectory consisting mainly of LAT and cohabitational episodes were shown to have a positive impact.

Among women, we found that the number of cohabitational episodes and having at least one cohabitational episode had significant negative effects on the level of depressiveness (i.e., women with more cohabitational episodes or at least one cohabitational episode are less depressed – models D.1 and E.1 in Table 3). These results were not, however, mirrored in the sequence analysis models (G.1 and H.1 in Table 4), where we found that women with a late or an interrupted transition to cohabitation were significantly more depressed than those who remained single, and were also more depressed (although not significantly so) than those who entered partnerships earlier. It thus appears that making a late transition was not beneficial for women. We can thus conclude that Hypothesis 1 is not supported for women and the level of depressiveness; and that Hypotheses 3a and 3b, which argue that these relationship patterns influence depressiveness levels more among men than among women, can be supported.

In line with Hypothesis 1, we found that both men and women had less negative partnership expectations if they spent more time in cohabitation or had at least one cohabitational episode (models D3, D4, E3, and E4 in Table 3). A smaller significant influence of the number of LAT episodes was also found among women (model A.3 in Table 3), as they were shown to have slightly more negative views on partnerships if they had experienced more LAT episodes. The results of the models including sequence analyses (models G3, G4, H3a+b, H4a+b in Table 4) again helped us to better

understand these results by highlighting that having a relationship history that was largely stable had a positive influence. The differences were found to be most pronounced among men: the men who largely remained single had more negative partnership expectations in the three-cluster as well as in the nine-cluster models (models G4, H4a, and H4b in Table 4). Models H4a and H4b in Table 4 also showed that being in a stable cohabitation led to less negative partnership expectations among men (with a greater impact when the partnership was entered early), but that there was no significant positive impact among men with unstable histories. According to models H3a and H3b in Table 4, women benefited only from being in a stable cohabitation, and they benefited most if they entered the cohabitation after being in a longer LAT relationship at an early age. Women who remained single and had an early but unstable cohabitation had significantly more negative partnership expectations than those with an early but slow transition to cohabitation. The results thus support Hypothesis 1 for both men and women with respect to partnership expectations, and are in line with Hypotheses 3a and 3b, which asserted that men benefit more than women from being in a stable cohabitational union.

Finally, yet importantly, the results of the sensitivity tests partially support Hypothesis 1 with respect to the overall level of life satisfaction. We found small but significant positive effects on overall life satisfaction of the number of cohabitational episodes among both men and women (models D.5 and D.6 in Table 3); of having at least one cohabitational episode among women (model E.5); and of the number of and the time spent in LAT relationships among men (models A.6 and C.6) (Table 3). It thus appears that for women, having at least one cohabitational episode was decisive. In contradiction to Hypothesis 1 and the theory of cumulative advantages and disadvantages, we found that the length of time respondents spent in cohabitation did not significantly influence the results (models A.5 and A.6 in Table 3). The sequence analysis approach revealed, however, that this influence indeed existed, but only if we looked at sequences as a whole. Models G.6 and H.6 in Table 4 showed that men with a history of long-term singlehood were significantly less satisfied than their cohort peers. Not in line with our expectations or with the results for the other indicators, we concluded that the stability of the cohabitational union was not the decisive factor in this case, as significant differences were found between long-term singles and men with unstable as well as stable partnership trajectories. The overall level of life satisfaction was shown to depend far less on partnership trajectories among women than among men. The only significant difference found was, however, in line with Hypothesis 1, which asserted that people with an unstable partnership history are less satisfied than those with an early but slow transition to a stable cohabitation (model H.5 in Table 4).

The overall results partially support Hypothesis 1 (that the positive influence of stable cohabitational unions ...) and Hypotheses 3a and 3b (... is dependent on gender).

Being in a stable cohabitational union was found to positively influence partnership expectations among men and women (but more among men); to reduce levels of depressiveness and to increase levels of overall life satisfaction among men and women (but, again, more among men). The findings indicate that, overall, men were strongly and negatively affected by being single, but not by being in unstable relationships; while women were less negatively affected by being in unstable relationships, and not at all by being single. The results also clearly demonstrate the additional value of using the sequence analysis approach, because the main impacts were not clearly visible in the analyses using simple sequence characteristics. The parallel analyses conducted by two models with different levels of complexity were also helpful, because the results of the three-cluster model more clearly revealed the dominant influences, whereas the results of the nine-cluster model improved our understanding of these influences.

Hypothesis 2 was also only partially supported by our results. In line with this hypothesis, we found significant effects on partnership expectations of average sequence dissimilarities (models I.3 and I.4 in Table 4), which indicates that respondents with unusual partnership histories (that differ more from those of their cohort fellows) were less positive about partnerships. The coefficients were found to be fairly high, because the average dissimilarities were mainly distributed within a fairly small range (see Table A-7), and not within their potential range from zero to one. The magnitudes of the regression coefficients should therefore be of minor interest within our models. Other influences were shown to be less strong and not significant, although they were still mainly in line with our hypotheses. For example, men and women with unusual partnership histories were found to be less satisfied (models I.5 and I.6 in Table 4), and these men were also found to be more depressed (model I.2). Contrary to our expectations, women with unusual partnership trajectories were shown to be less depressed (model I.1 in Table 4).

6. Summary and discussion

Prior cross-sectional research has proven that an individual's partnerships greatly affect their quality of life. Until now, however, there has been no evidence on whether these effects accumulate over time, and whether they depend on the stability of a union. To fill this research gap, we identified different types of partnership trajectories. Using data from the German Family Panel's 1971–1973 birth cohort, we applied the sequence analysis methodology to partnership-related events between the ages of 14 and 41. In multivariate models, we first tested the influence of these types of partnership trajectories, and then examined the impact of the average degree of dissimilarity of each respondent's trajectory relative to the trajectories of their cohort peers (i.e., the level of

destandardisation was measured at an individual level to determine how close respondents' trajectories were to relevant norms). We additionally calculated models using simple sequence characteristics as independent variables to test the value of the sequence analysis methodology for addressing the research question.

In line with our assumptions, we found positive but gender-mediated effects of both being in a stable cohabitational union and the level of standardisation (i.e., how similar the respondent's life-course was to the life-courses of their cohort peers) on partnership expectations (for men and women), and of being in a stable cohabitational union on levels of depressiveness and overall life satisfaction (for men). Thus, in line with our assumptions, we found that men were more affected than women by spending longer periods of time living without a partner. Men were shown to suffer most from being single over a long period of time, while women were more negatively affected by being in an unstable relationship but were not affected by being single for longer periods. These findings support the results of prior cross-sectional research, which attributed the gender differences in the influences of different types of partnership status to unequal gender roles within partnerships. It has been shown that while women usually make larger investments in relationships, they are also more successful in substituting the lack of support from a partner with support from a network of friends and family, and thus suffer less than men from being single. Hence, women in unstable relationships may invest more in those relationships without benefiting from their efforts. Men, on the other hand, may profit from women's investments in relationships, regardless whether they are in a long stable relationship or a number of shorter (unstable) relationships. Our results show that men had a lower quality of life only if they were single for long periods of time.

We also showed that individuals with a partnership history that differed from those of their cohort peers had more negative partnership expectations. This is a strong hint that deviating from the norm influences people's perceptions and evaluations of their relationship career and status. However, as we did not find this association for indicators of well-being (depressiveness, overall life satisfaction) in our data, investigating this question further might be an appealing task for future research, for example using different measures of sequence dissimilarity (Studer and Ritschard 2016).

Overall, our research provides a solid argument for basing the analysis of partnership biographies on the theoretical perspective of the life-course and the concept of cumulative advantages and disadvantages. We showed that an individual's relationship trajectory – which is one of the most important dimensions of the life-course – affects their well-being and expectations. Further research could focus on the details of how the properties of the life-course process (and the potential deviation from

the peer standard) contribute to several outcome dimensions, and which types of trajectories and transitions (or nontransitions) at which times are the most influential.

We have also added to the methodological literature by demonstrating that the use of types (clusters) of sequences was necessary to obtain these results, as simple sequence characteristics did not sufficiently reflect (gender) differences in the stability of cohabitational unions. Our analyses were limited by the fact that our dependent variables were only measured at the end of the partnership histories, as these biographical data was mainly retrospective. We were therefore unable to disentangle the effects of selection and causality. Further research using prospective data is therefore needed to improve our understanding of the connection between partnership histories and quality of life.

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Appendix

Table A-1: List of items used to construct indices (dependent variables)

VOP (Negative partnership expectations scale)		STDS-T-scale (Depressiveness)
Question text / items	And to what extent do you fear...	In the following list you see a number of statements that people can use to describe themselves. Please read each statement and indicate from among the four answers the one that corresponds to the way you feel in general.
	... having stress in a relationship.	My mood is melancholy.
	... becoming bored in a relationship.	I am happy.
	... that my family and friends don't accept or dislike a partner.	I am depressed.
	... that a partner will constrain me.	I am sad.
	... being hurt emotionally or encounter relationship problems in the partnership?	I am in desperation.
Scale		My mood is gloomy.
		I feel good.
		I feel secure.
		I am calm and composed.
		I enjoy life.
	1 = Not at all	1 = Almost never
	to	2 = Sometimes
	5 = Very strongly	3 = Often
		4 = Almost always

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Table A-2: Overview distribution of respondents among clusters (by gender)

Three-cluster solution	Nine-cluster solution
I. Mix of different states. 33% / women 28% / men 38%	i. Unstable. 13% / women 12% / men 14%
	ii. Long LAT-prelude. 5% / women 5% / men 5%
	iii. Late or interrupted transition. 15% / women 12% / men 20%
II. Mainly single	iv. Mainly Single. 9% / women 5% / men 14% <i>[Note: cluster appears in both solutions!]</i>
	v. Early transition (unstable). 8% / women 10% / men 5%
	vi. Early transition (stable). 17% / women 23% / men 9%
III. Cohabitation dominant. 58% / women 67% / men 48%	vii. Later transition. 8% / women 7% / men 9%
	viii. Early slow transition. 9% / women 12% / men 6%
	ix. Later slow transition. 17% / women 16% / men 19%

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Table A-3: Descriptive results (dependent variables by cluster affiliation)**a) Solution with three clusters**

M: male, F: female All values arithmetic means	Overall	I: Mix of different states ***	II: (Mainly) single ***	III: Cohabitation dominant ***
(1: almost always depressed)				
M: Depression scale	0.2508	0.242 ▼	0.2994 ▲	0.2435 ▼
F: Depression scale	0.2612	0.2723 ▲	0.2627 ●	0.2564 ●
(0: almost never depressed)				
(1: strongly negative expectations)				
M: Partnership expectations	0.2851	0.2957 ▲	0.3705 ▲	0.2513 ▼
F: Partnership expectations	0.2723	0.2993 ▲	0.3366 ▲	0.2568 ▼
(0: no negative expectations)				
(1: highly satisfied)				
M: Overall life satisfaction	0.7329	0.7375 ▲	0.6785 ▼	0.7452 ▲
F: Overall life satisfaction	0.7432	0.7258 ●	0.6961 ▼	0.7539 ▲
(0: highly unsatisfied)				

b) Solution with nine clusters

M: male, F: female All values arithmetic means	Overall	i: Unstable	ii: Long LAT- prelude	iii: Late or interrupted transition	iv: (Mainly) single	v: Early transition (unstable)	vi: Early transition (stable)	vii: Later transition	viii: Early slow transition	ix: Later slow transition
(1: almost always depressed)										
M: Depression scale	0.2508	0.2386 ▼	0.2624 ●	0.2396 ▼	0.2994 ▲	0.2792 ▲	0.2688 ▲	0.232 ▼	0.2279 ▼	0.2325 ▼
F: Depression scale	0.2612	0.2857 ▲	0.2626 ●	0.2623 ●	0.2627 ●	0.2516 ●	0.2674 ▲	0.26 ●	0.2381 ▼	0.256 ●
(0: almost never depressed)										
(1: strongly negative expectations)										
M: Partnership expectations	0.2851	0.3151 ▲	0.3066 ▲	0.2796 ●	0.3705 ▲	0.2641 ▼	0.2246 ▼	0.2535 ▼	0.2453 ▼	0.2615 ▼
F: Partnership expectations	0.2723	0.3569 ▲	0.2641 ▼	0.2536 ▼	0.3366 ▲	0.3138 ▼	0.2583 ▼	0.2341 ▼	0.2326 ▼	0.248 ▼
(0: no negative expectations)										
(1: highly satisfied)										
M: Overall life satisfaction	0.7329	0.7371 ▲	0.7463 ▲	0.7357 ●	0.6785 ▼	0.739 ▲	0.7443 ▲	0.7273 ●	0.7429 ▲	0.7564 ●
F: Overall life satisfaction	0.7432	0.6869 ▼	0.7469 ●	0.7585 ▲	0.6961 ▼	0.7385 ▼	0.7444 ▲	0.7487 ●	0.7843 ▲	0.7565 ▲
(0: highly unsatisfied)										

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Note: Significance levels test (comparison of cluster average value with average for all respondents of gender group): *** \triangleq $p \leq 0.001$, ** \triangleq $p \leq 0.01$, * \triangleq $p \leq 0.05$; all other $p > 0.05$, thus statistically not significant; ▲ \triangleq significantly higher than average for all respondents of gender group, ● \triangleq no significant deviation from average for all respondents of gender group, ▼ \triangleq significantly lower than average for all respondents of gender group.

Table A-4: Linear regression for the three-cluster solution (full models in addition to Table 4, models G)

Dependent variables	Depressiveness scale (0 to 1 = depressed)		Negative partnership expectations (0 to 1 = strongly negative)		Overall life satisfaction (0 to 1 = highly satisfied)	
	(G.1) Women Obs: 809 p = 0.0054 Adj. R ² : 0.0218	(G.2) Men Obs: 714 p = 0.0002 Adj. R ² : 0.0390	(G.3) Women Obs: 745 p = 0.2759 Adj. R ² : 0.0039	(G.4) Men Obs: 668 p = 0.0000 Adj. R ² : 0.0690	(G.5) Women Obs: 816 p = 0.0301 Adj. R ² : 0.0150	(G.6) Men Obs: 721 p = 0.0000 Adj. R ² : 0.0565
Independent variables						
Cluster						
I: Mix of different states	0.0015 (0.0137)	-0.0022 (0.0131)	0.0263 (0.0160)	0.0291 * (0.0143)	-0.0158 (0.0135)	0.0641 ** (0.0221)
II: Mainly single	-0.0458 (0.0319)	0.0549 * (0.0238)	0.0491 (0.0382)	0.0683 ** (0.0259)	-0.0049 (0.0311)	[reference]
III: Cohabitation dominant	[reference]	[reference]	[reference]	[reference]	[reference]	0.0513 * (0.0237)
Territory						
West [reference]						
East	-0.0239	-0.0213	0.0059	-0.0111	0.0108	-0.0018
Level of formal education						
No qualifications	0.0216	-0.036	0.0219	0.0186	0.1022	0.0258
Low level of education [reference]						
Medium level of education	-0.0374	-0.0252	0.0054	-0.012	0.0221	0.0052
High level of education	-0.0439	-0.0104	0.0015	-0.0203	0.0387	-0.0224
Other educational qualification	(omitted)	0.0755	0.0191	-0.1456	-0.1224	-0.0286
Individual net income (in 1000€)	-0.0302 ***	-0.024 ***	-0.0059	-0.0113	0.0222 **	0.0285 ***
Hours of work per week	0.0014 *	0.0009	0.0001	0.0012	-0.0014 *	-0.0009
No children in household [reference]						
Child(ren) present in household	0.0129	0.0231	0.0465	-0.0322	-0.0115	-0.0115
Household size of main residence	-0.002	-0.0066	-0.0182 *	-0.0101	0.0051	0.0077
Migration status (1 st generation excluded)						
No migration background [reference.]						
2 nd generation	-0.023	0.0274	0.033	0.0125	0.0146	-0.0139
BLK classification (simplified)						
500,000+ [reference]						
100,000 to <500,000	-0.0064	-0.0048	0.0076	0.0065	0.0202	-0.0033
50,000 to <100,000	-0.0006	0.001	-0.0115	0.0306	0.0178	0.0013
20,000 to <50,000	-0.0114	-0.0153	-0.0232	-0.0132	-0.0019	0.005
< 20,000	0.0032	0.0056	-0.0037	-0.0175	-0.0029	-0.0362 *

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Note: *** \triangleq $p \leq 0.001$, ** \triangleq $p \leq 0.01$, * \triangleq $p \leq 0.05$; all significant influences of clusters are highlighted in grey; all others are $p > 0.05$ and are thus statistically not significant.

Table A-5: Linear regression for the nine-cluster solution (full models in addition to Table 4, models H.1, H.2a, and H.2b)

Independent variables	Dependent variables	
	Depressiveness scale (0 to 1 = depressed)	
	(H.1) Women Obs: 809 p = 0.0125 Adj. R ² : 0.0213	(H.2) Men Obs: 714 p = 0.0002 Adj. R ² : 0.0429
Cluster		(a) (b)
i: Unstable	0.0329 (0.0340)	-0.0747 ** (0.0253) -0.0751 * (0.0322)
ii: Long LAT prelude	0.0449 (0.0413)	-0.0387 (0.0325) -0.0391 (0.0376)
iii: Late or interrupted transition	0.0703 * (0.0354)	-0.0516 * (0.0246) -0.0521 (0.0301)
iv: (Mainly) single	[reference]	[reference] -0.0005 (0.0345)
v: Early transition (unstable)	0.0395 (0.0354)	0.0005 (0.0345) [reference]
vi: Early transition (stable)	0.0652 (0.0339)	-0.0439 (0.0295) -0.0444 (0.0332)
vii: Later transition	0.0615 (0.0385)	-0.0796 ** (0.0295) -0.0800 * (0.0331)
viii: Early slow transition	0.0317 (0.0354)	-0.0741 * (0.0322) -0.0746 * (0.0352)
ix: Later slow transition [reference]	0.0483 (0.0346)	-0.0548 * (0.0259) -0.0552 (0.0300)
Territory		
West [reference]		
East	-0.0263	-0.0209
Level of formal education		
No qualifications	0.0343	-0.043
Low level of education [reference]		
Medium level of education	-0.0358	-0.0264
High level of education	-0.041	-0.0097
Other educational qualification	(omitted)	0.079
Individual net income (in 1000€)	-0.0303 ***	-0.026 ***
Hours of work per week	0.0015 *	0.0009
No children in household [reference]		
Child(ren) present in household	0.0124	0.0245
Household size of main residence	-0.0046	-0.0066
Migration (1 st generation excluded)		
No migration background [reference.]		
2 nd generation	-0.0197	0.0288
BIK classification (simplified)		
500,000+ [reference]		
100,000 to <500,000	-0.0058	-0.0038
50,000 to <100,000	-0.0018	0.0114
20,000 to <50,000	-0.013	-0.0166
< 20,000	0.0044	0.009

Table A-5: (Continued – full models in addition to Table 4, models H.3a, H.3b, H.4a, and H.4b)

Independent variables	Dependent variables Negative partnership expectations (0 to 1 = strongly negative)			
	(H.3) Women Obs: 745 p = 0.0305 Adj. R ² : 0.0190		(H.4) Men Obs: 668 p = 0.0000 Adj. R ² : 0.0713	
Cluster	(a)	(b)	(a)	(b)
i: Unstable	[reference]	0.1176 *** (0.0291)	-0.0274 (0.0272)	0.0877 ** (0.0286)
ii: Long LAT prelude	-0.0965 * (0.0376)	0.0212 (0.0371)	-0.0244 (0.0348)	0.0907 * (0.0353)
iii: Late or interrupted transition	-0.0946 ** (0.0289)	0.0231 (0.0275)	-0.0557 * (0.0267)	0.0594 * (0.0254)
iv: (Mainly) single	-0.0246 (0.0404)	0.0931 * (0.0419)	[reference]	0.1151 *** (0.0323)
v: Early transition (unstable)	-0.0554 (0.0292)	0.0622 * (0.0286)	-0.0563 (0.0372)	0.0588 (0.0361)
vi: Early transition (stable)	-0.0823 ** (0.0260)	0.0353 (0.0238)	-0.1151 *** (0.0323)	[reference]
vii: Later transition	-0.0999 ** (0.0336)	0.0176 (0.0319)	-0.0746 * (0.0321)	0.0405 (0.0290)
viii: Early slow transition	-0.1176 *** (0.0291)	[reference]	-0.0800 * (0.0357)	0.0351 (0.0330)
ix: Later slow transition [reference]	-0.0859 ** (0.0274)	0.0317 (0.0251)	-0.0567 * (0.0282)	0.0584 * (0.0253)
Territory				
West [reference]				
East	0.0033		-0.0081	
Level of formal education				
No qualifications	0.0545		0.0172	
Low level of education [reference]				
Medium level of education	0.0086		-0.0149	
High level of education	0.008		-0.0267	
Other educational qualification	0.0708		-0.1317	
Individual net income (in 1000€)	-0.0056		-0.0116	
Hours of work per week	0.0001		0.0014 *	
No children in household [reference]				
Child(ren) present in household	0.0563 *		-0.0325	
Household size of main residence	-0.0126		-0.0078	
Migration (1 st generation excluded)				
No migration background [reference.]				
2 nd generation	0.0289		0.0141	
BIK classification (simplified)				
500,000+ [reference]				
100,000 to <500,000	0.0099		0.0066	
50,000 to <100,000	-0.0104		0.0313	
20,000 to <50,000	-0.0237		-0.013	
< 20,000	-0.0017		-0.0178	

Table A-5: (Continued – full models in addition to Table 4, models H.5 and H.6)

Independent variables	Overall life satisfaction (0 to 1 = highly satisfied)	
	(H.5) Women Obs: 816 p = 0.0679 Adj. R ² : 0.0131	(H.6) Men Obs: 721 p = 0.0000 Adj. R ² : 0.0543
Cluster		
i: Unstable	-0.0538 * (0.0242)	0.0833 ** (0.0252)
ii: Long LAT prelude	-0.0311 (0.0320)	0.0654 * (0.0321)
iii: Late or interrupted transition	-0.0402 (0.0234)	0.0459 (0.0246)
iv: (Mainly) single	-0.0356 (0.0346)	[reference]
v: Early transition (unstable)	-0.0407 (0.0241)	0.0444 (0.0342)
vi: Early transition (stable)	-0.0356 (0.0202)	0.0649 * (0.0295)
vii: Later transition	-0.0289 (0.0271)	0.0365 (0.0294)
viii: Early slow transition	[reference]	0.0480 (0.0322)
ix: Later slow transition [reference]	-0.0300 (0.0212)	0.0422 (0.0259)
Territory		
West [reference]		
East	0.0125	-0.0008
Level of formal education		
No qualifications	0.0822	0.0201
Low level of education [reference]		
Medium level of education	0.0203	0.0037
High level of education	0.0349	-0.0243
Other educational qualification	-0.155	-0.0318
Individual net income (in 1000€)	0.0222 **	0.0294 ***
Hours of work per week	-0.0014 *	-0.0009
No children in household [reference]		
Child(ren) present in household	-0.0132	-0.0124
Household size of main residence	0.0038	0.0103
Migration (1 st generation excluded)		
No migration background [reference.]		
2 nd generation	0.0145	-0.0176
BIK classification (simplified)		
500,000+ [reference]		
100,000 to <500,000	0.019	-0.0038
50,000 to <100,000	0.0175	0.0031
20,000 to <50,000	-0.0013	0.0043
< 20,000	-0.0046	-0.0359 *

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Note: *** $\triangleq p \leq 0.001$, ** $\triangleq p \leq 0.01$, * $\triangleq p \leq 0.05$; all significant influences of clusters are highlighted in grey; all others are $p > 0.05$ and are thus statistically not significant.

Table A-6: Linear regression for the average dissimilarity (full models in addition to Table 4, models I.1 to I.6)

Independent variables	Depressiveness scale (0 to 1 = depressed)		Negative partnership expectations (0 to 1 = strongly negative)		Overall life satisfaction (0 to 1 = highly satisfied)	
	(I.1) Women	(I.2) Men	(I.3) Women	(I.4) Men	(I.5) Women	(I.6) Men
	Obs: 809 p = 0.0033 Adj. R ² : 0.0230	Obs: 714 p = 0.0004 Adj. R ² : 0.0358	Obs: 745 p = 0.0833 Adj. R ² : 0.0109	Obs: 668 p = 0.0000 Adj. R ² : 0.0701	Obs: 816 p = 0.0209 Adj. R ² : 0.0162	Obs: 721 p = 0.0000 Adj. R ² : 0.0479
Average dissimilarity	-0.1197	0.1438	0.262 **	0.2396 **	-0.0903	-0.087
Territory						
West [reference]						
East	-0.025	-0.0199	0.0072	-0.0118	0.0108	-0.0036
Level of formal education						
No qualifications	0.024	-0.0321	0.0183	0.0216	0.1029	0.0193
Low level of education [reference]						
Medium level of education	-0.0383	-0.0273	0.0071	-0.0112	0.0225	0.0085
High level of education	-0.0449 *	-0.0132	0.0047	-0.0177	0.0373	-0.0173
Other educational qualification	(omitted)	0.0784	0.031	-0.1533	-0.1262	-0.0353
Individual net income (in 1000€)	-0.0301 ***	-0.0232 ***	-0.0054	-0.0119	0.0218 **	0.0275 ***
Hours of work per week	0.0015 *	0.0008	0.0001	0.0012	-0.0013 *	-0.0008
No children in household [reference]						
Child(ren) present in household	0.0125	0.0153	0.0494 *	-0.0289	-0.0132	-0.0031
Household size of main residence	-0.0039	-0.0044	-0.0152 *	-0.008	0.0042	0.0058
Migration (1 st generation excluded)						
No migration background [reference.]						
2 nd generation	-0.0213	0.0226	0.0297	.0093	0.0154	-0.0093
BLK classification (simplified)						
500,000+ [reference]						
100,000 to <500,000	-0.008	-0.0035	0.0076	0.005	0.0207	-0.0052
50,000 to <100,000	-0.0023	0.0011	-0.0106	0.0325	0.0176	0.0003
20,000 to <50,000	-0.0125	-0.0136	-0.0206	-0.0123	-0.003	0.0028
< 20,000	0.0006	0.0054	-0.0033	-0.02	-0.0021	-0.0364 *

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Note: *** \triangleq $p \leq 0.001$, ** \triangleq $p \leq 0.01$, * \triangleq $p \leq 0.05$; all others are $p > 0.05$ and are thus statistically not significant.

Table A-7: Distribution of the dependent variables and the average dissimilarities

	Depressiveness scale (0 to 1 = depressed)		Negative partnership expectations (0 to 1 = strongly negative)		Overall life satisfaction (0 to 1 = highly satisfied)		Average dissimilarity (0 to 1 = completely dissimilar)	
	Women	Men	Women	Men	Women	Men	Women	Men
Mean	0.26	0.25	0.27	0.29	0.74	0.73	0.39	0.40
Standard deviation	0.18	0.16	0.19	0.17	0.18	0.17	0.09	0.11
Minimum	0	0	0	0	0	0	0.29	0.29
25-percentile	0.13	0.13	0.15	0.15	0.70	0.70	0.33	0.32
50-percentile (median)	0.23	0.23	0.25	0.25	0.80	0.80	0.36	0.36
75-percentile	0.37	0.33	0.40	0.40	0.80	0.80	0.41	0.46
Maximum	1	1	1	1	1	1	0.69	0.65

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Table A-8: Distribution of the summarising features of life-courses

	Proportion of time in LAT (0 to 1)		Proportion of time in Cohabitation (0 to 1)		Number of LAT episodes		Number of cohabitational episodes	
	Women	Men	Women	Men	Women	Men	Women	Men
Mean	0.18	0.17	0.53	0.42	2.03	2.03	1.33	1.21
Standard deviation	0.15	0.14	0.23	0.24	1.39	1.42	0.72	0.74
Minimum	0	0	0	0	0	0	0	0
25-percentile	0.07	0.05	0.39	0.23	1	1	1	1
50-percentile (median)	0.15	0.15	0.58	0.46	2	2	1	1
75-percentile	0.26	0.24	0.70	0.60	3	3	2	2
Maximum	0.80	0.74	1	0.93	8	8	5	4

Source: Pairfam, respondents from waves 6 and 7, own calculations.

Zimmermann & Hameister: Retrospective analysis of partnership histories also reveals gender differences